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CONTENTS

HIP FRACTURES, <i>Joseph F. Hughes, M. D., Wilmington, Del.</i>	149	CLINICAL EVALUATION OF A CETYLPIRIDINIUM CHLORIDE COUGH MIXTURE, <i>Charles A. Brusch, M. D., Cambridge, Mass., and Charles W. McClure, M. D., Calvin M. Cerrato, M. D., L. A. Grasse, M. D., Boston, Mass.</i>	165
METHYL ALCOHOL POISONING, <i>Bernadine Ziegler Paulshock, M. D., Wilmington, Del.</i>	155	WOMAN'S AUXILIARY: <i>M. S. of D.</i>	168
ENTEROCOCCAL ENDOCARDITIS, <i>William J. Holloway, M. D., and E. G. Scott, M. T., Wilmington, Del.</i>	158	EDITORIALS	169
THE TREATMENT OF THE PATIENT WITH ADVANCED CANCER	161	MISCELLANEOUS	171
CLINICPATHOLOGIC CASE REPORT, <i>Vaughn R. Sturtevant, M. D., and Park W. Huntington, Jr., M. D.</i>	162	BOOK REVIEWS	172

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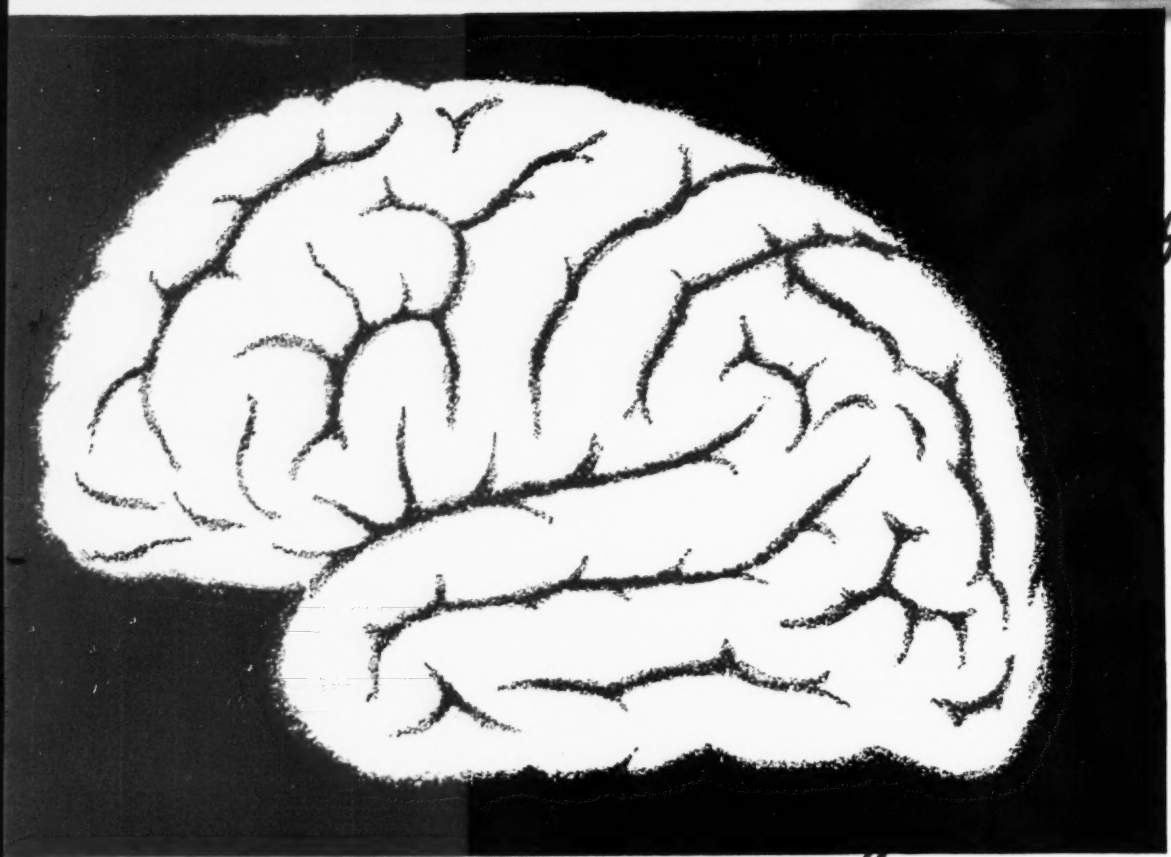
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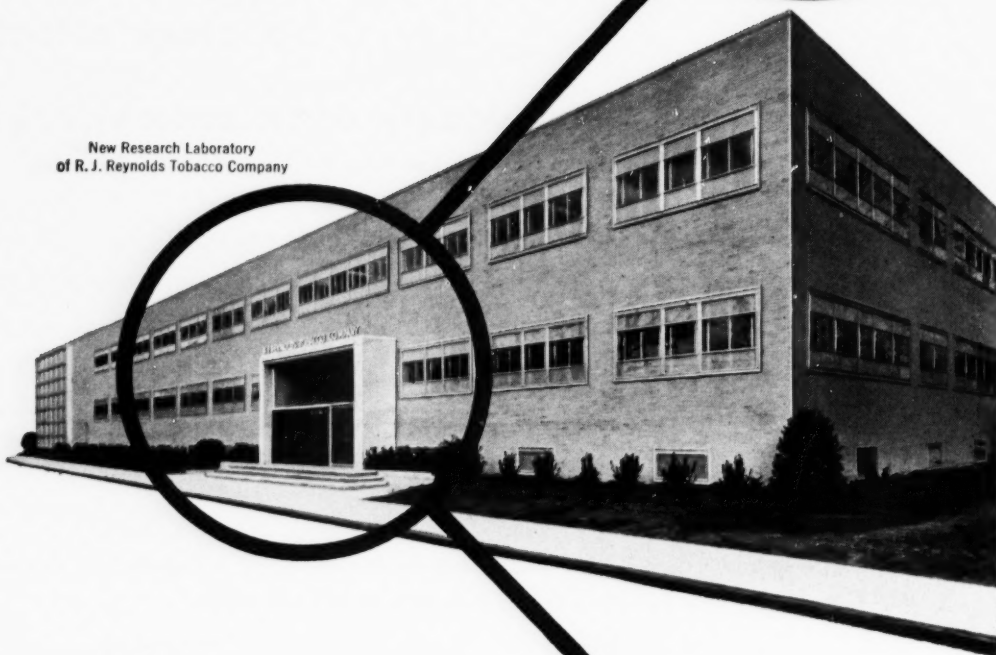
(1) Krantz, J. C., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, Baltimore, The Williams & Wilkins Company, 1949 (Reprinted 1950), p. 518. (2) *ibid*, p. 515. (3) Carter, S.: Epilepsy, in Conn, H. F.: Current Therapy 1952, Philadelphia, W. B. Saunders Company, 1952, p. 612. (4) Salter, W. T.: A Textbook of Pharmacology, Philadelphia, W. B. Saunders Company, 1952, p. 231.



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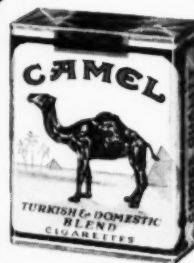
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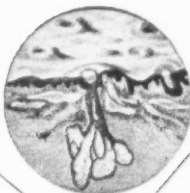


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1. Bednar, G. A.: *South. M. J.* 46:298 (March) 1953.

2. Wright, C. S. et al.: *A. M. A. Arch.*

Dermat. & Syph. 67:125 (Feb.) 1953.

3. Robinson, H. M. et al.: *South. M. J.* (in press).

4. Andrews, G. C. et al.: *J. A. M. A.* 146:1107 (July 21) 1951.

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1. Van Alyea, O. E., and Donnelly, Allen: Arch. Otolaryng., 49:234, Feb., 1949.

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Meat and its applicability in the Dietary Management of Atherosclerosis

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Recent basic research on the influence of fats and cholesterol on human health has done much to further progress in the fight against atherosclerosis. It will serve well in dispelling the mistaken fear that reasonable amounts of foods of animal origin predispose the individual to this vascular disease.⁶ As a matter of fact, a dietary inadequate in essential nutrients but providing too many calories and too much fat from *any* source may well be an important factor underlying the deposition of fat and cholesterol in the arteries and liver.

Cumulative evidence indicates that lowered blood levels of cholesterol may be effected by restricting the total fat intake.¹ Except in instances of refractory hypercholesteremia, in which a daily fat intake as low as 10 Gm. may not reduce cholesterol levels to normal, diets containing 20 to 30 Gm. of fat, or even more, often produce low cholesterol blood levels. In the clinical application of this principle, various palatable, low fat diets which supply three servings of meat daily (containing 18 Gm. of fat) have recently been suggested for the dietary management of arteriosclerosis and for enlisting the cooperation of patients.¹ The meat servings were chosen from a large variety of cuts and kinds of meat (fat trimmed off, as lean as possible). Meat adds to the eating appeal of the fat-restricted diet and contributes important amounts of biologically complete protein, the B group of vitamins including B₁₂, and food iron—all of which are important for a good state of nutrition in the atherosclerotic patient.

1. Hildreth, E.A.; Hildreth, D.M., and Mellinkoff, S.M.: Principles of a Low Fat Diet, *Circulation* 4:899 (Dec.) 1951.
2. Bloch, K.: The Intermediary Metabolism of Cholesterol, *Circulation* 1:214 (Feb.) 1950.
3. Keys, A.; Mickelson, O.; Miller, E.V.O., and Chapman, L.B.: The Relation in Man Between Cholesterol Levels in the Diet and in the Blood, *Science* 112:79, 1950.
4. Gubner, R., and Ungerleider, H.E.: Arteriosclerosis, a Statement of the Problem, *Am. J. Med.* 6:60, 1949.
5. Hildreth, E.A.; Mellinkoff, S.M.; Blair, G.W., and Hildreth, D.M.: The Effect of Vegetable Fat Ingestion on Human Serum Cholesterol Concentration, *Circulation* 3:641 (May) 1951.
6. King, C.G.: Trends in the Science of Food and Its Relation to Life and Health, *Nutrition Rev.* 10:1 (Jan.) 1952.

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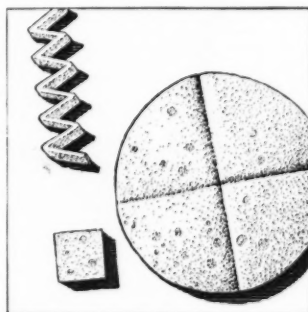
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*Harding, F. E.: West. J. Surg. 52:31 (Jan.) 1944.

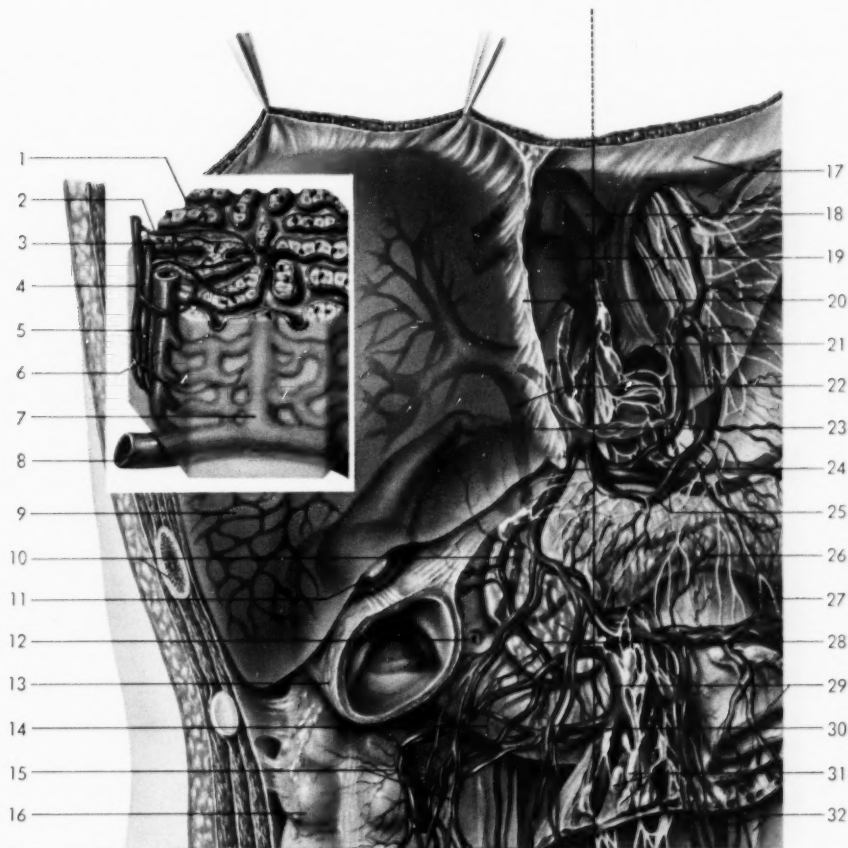
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- | | | | |
|-----------------------------------|---|---|---|
| 1 Sinusoid | 11 Gallbladder | 20 Falciform ligament and branch of portal vein | 27 Right gastroepiploic artery and vein |
| 2 Arteriole | 12 Papilla of Vater | 21 Abdominal aorta and celiac plexus | 28 Head of pancreas and pancreaticoduodenal artery and vein |
| 3 Bile capillary | 13 Transverse colon | 22 Hepatic duct and hepatic artery | 29 Superior mesenteric artery and vein, and jejunum |
| 4 Branch of hepatic artery | 14 Duodenum | 23 Cystic duct and celiac artery | 30 Right colic artery and vein |
| 5 Bile duct | 15 Branches of right colic artery and vein | 24 Celiac ganglion and gastroduodenal artery and vein | 31 Superior mesenteric lymph nodes |
| 6 Branch of portal vein | 16 Ascending colon | 25 Left gastric artery and coronary vein | 32 Inferior mesenteric vein and left ureter |
| 7 Central vein | 17 Coronary ligament and esophagus | 26 Pancreatic duct | |
| 8 Branch of inferior vena cava | 18 Left hepatic vein and left vagus nerve | | |
| 9 Right lobe of liver | 19 Inferior vena cava and right vagus nerve | | |
| 10 Common bile duct and tenth rib | | | |

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
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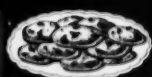
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HIP FRACTURES

At the Delaware Hospital

JOSEPH F. HUGHES, M. D.,*
Wilmington, Del.

This is a review and study of 221 cases of hip fractures in the neck and intertrochanteric area of the femur. These cases constitute all that were treated at the Delaware Hospital from February, 1946, to January 1, 1953.

ANATOMY

Fractures about the hip are classified according to their anatomic location in the proximal end of the femur and these are subdivided under types in each classification.¹ There are two classes, namely, the intracapsular and the extracapsular fractures. The intracapsular fractures are fractures of the neck of the femur. These can be subdivided into subcapital, transcervical, and basilar fractures. After closed reduction and internal fixation of displaced neck fractures, aseptic necrosis of the femoral head may occur in 15% to 33% of the cases. In undisplaced neck fractures without operation, the incidence of aseptic necrosis may be as low as 13%.⁵ Extracapsular fractures occur in the intertrochanteric, transtrochanteric, and subtrochanteric regions. Comminution with involvement of two or more regions of the trochanter may be present. Fractures of the intertrochanteric region present the problem of maintenance of length and position, rather than of the attainment of union. These fractures are notorious for their tendency to unite by any type of treatment or lack of treatment.

In this article all the intracapsular fractures are classified as fractures of the neck of the femur. The extracapsular fractures of the femur are all called intertrochanteric fractures.

From the Orthopedic Service, Delaware Hospital.
*Resident in Surgery, Delaware Hospital.

PROBLEMS OF TREATMENT

Hip fractures may result from severe trauma in patients of any age, but these fractures occur more often in older patients. Because of decalcification with advancing years, fractures of the hip in elderly people frequently result from minor trauma.

Cleveland, Bosworth and Thompson³ stated: "These elderly people represent a veritable museum of pathologic changes antedating their traumas." Many of the patients in this series presented severe cardiac, renal, metabolic, and senile manifestations. They were disoriented, incontinent, febrile, acidotic, or decompensated on admission to the hospital, and all presented difficult nursing problems from the beginning. In order to prevent complications from prolonged recumbency, internal fixation of the fracture is a very satisfactory method of treatment. This treatment was popularized in 1931 by Smith-Petersen,⁶ who introduced a solid three flanged nail through the trochanteric region across the site of the fracture into the head of the femur, after adequate reduction of the fracture. The Smith-Petersen nail is appropriate for fixing neck fractures of the femur. It was modified by cannulating it to use a Kirschner wire as a guide. Jewett later modified the nail so that it had a plate attached to it. The Jewett nail is used mostly for intertrochanteric fractures and is a great aid in preventing coxa vara and external rotation deformities.

CLINICAL OBSERVATIONS

In this series of 221 patients there was a total of 224 fractures, as three of the patients each had 2 hip fractures.

Age. The patients ranged in age from 16 to 93 years. 174 (79%) of our patients were more than 60 years of age. Table I shows the distribution of the patients by decades.

TABLE I

AGE INCIDENCE OF HIP FRACTURES

16-20 yrs. — 1	20-29 yrs. — 6	30-39 yrs. — 9
40-49 yrs. — 12	50-59 yrs. — 19	60-69 yrs. — 43
70-79 yrs. — 66	80-89 yrs. — 59	90-93 yrs. — 6

Sex. The ratio of Caucasian females to males was approximately 2 to 1. There were 138 white females and 70 white males. There was a low incidence among colored patients, there being only 8 colored male and 5 colored female patients.

Classification. There were 102 fractures of the neck of the femur and 121 intertrochanteric fractures. One hip fracture was not classified because the patient was only in the hospital $\frac{1}{2}$ hour before she died, and no x-rays were obtained.

Mortality. The total number of deaths directly attributed to the hip fracture was 33. The mortality rate was 14.93%.

SYSTEM EMPLOYED TO EVALUATE END-RESULTS²

In order to evaluate the end results as carefully as possible the following groups were selected:

1. *Excellent.* Patients with the fracture healed in an anatomic position, the hip completely asymptomatic, and the patient able to go up and down stairs unaided.

2. *Good.* Patients with solid union of the fracture both clinically and by x-ray. Some of these patients had a slight limitation of hip motion. They were able to walk on smooth surfaces unaided, if they could walk before the injury. If they were unable to walk beforehand, a good result was obtained if clinical and x-ray improvement justified it.

3. *Fair.* These patients had solid union of the fracture, but there was some residual pain in the hip on walking. They needed crutches or a cane. However, if a patient could not walk prior to the injury, the same method was used as mentioned in the previous paragraph.

4. *Poor.* In this group we place those patients who were never able to walk after the injury. They were either confined to bed or a wheel chair, and poor union existed.

5. *Fatal.* In this group is included any patient who died prior to clinical improvement of the fracture. By clinical improvement we mean that the patient was well enough to leave the hospital and to start a normal convalescence at home.

TREATMENT

The types of treatment carried out fell into 2 major groups, namely, non-surgical and surgical. 71 fractures were treated by nonsurgical means. The patient who lived $\frac{1}{2}$ hour after admission with the unclassified fracture is considered as a patient treated by nonsurgical means. 153 were treated by some means of internal fixation.

NONSURGICAL CASES:

Fracture of the neck: On examining Table II we see that bed rest used as a treatment for these fractures carries the high mortality rate of 67%. 33% obtained excellent results and these probably had undisplaced fractures. The average mortality for conservative treatment was 44%.

Intertrochanteric fractures: Bed rest as a treatment carried a mortality rate of 41%. Patients with intertrochanteric fractures did better from the standpoint of morbidity and mortality than those with fractures of the neck of the femur. This is to be expected because, as noted previously, intertrochanteric fractures will often unite in spite of treatment.

TABLE II
RESULTS OF NONSURGICAL . . . TREATED HIP FRACTURES

Type of Treatment	Total	Traced	No.	Excellent	%*	No.	Good	%*	No.	Fair	%*	No.	Poor	%*	No.	Died	%*
FEMORAL NECK:																	
Bed Rest	10	9	3	33		1	25	1	25			6				67	
Skin traction	6	4	1	25								1				25	
Spica cast	6	5	2	40		1	20	1	20			1				20	
INTERTROCHANTERIC:																	
Bed rest	21	17	2	12		4	24	2	12		2	12			7	41	
Skin traction	6	6	2	33		1	17	2	33			1				17	
Well leg traction	11	8	2	25		2	25	3	37		1	13					
Kirschner wire and traction	1	1	1	100													
Spica cast	9	6	3	50		3	50										
UNCLASSIFIED:																	
Bed rest	1	1													1	100	
Totals	71	57															
* Percent of traced																	

* Percent of traced

TABLE III
SUMMARY OF PATIENTS TREATED BY CONSERVATIVE MEANS WHO DIED

Type of Treatment	Age	Sex	Color	Date of Admission	Date of Death	Type of Fracture	Cause of Death
Bed Rest	76	F	W	5-11-46	6-10-46	N	Pneumonia
Bed Rest	76	F	W	2-22-46	3- 1-46	I	Senility, shock
Bed Rest	82	F	W	1-11-47	1-29-47	I	Chronic myocarditis, Atonic ileus, Senility
Bed Rest	80	F	W	1-15-47	4- 9-47	N	Chronic mitral valvulitis with myocardial failure
Spica Cast	77	M	W	5-10-47	6-18-47	N	Uremia
Bed Rest	84	M	W	5-29-47	6- 4-47	N	Circulatory shock
Bed Rest	86	F	W	12-15-47	1- 7-28	I	Cardiovascular accident, Carcinoma of stomach
Bed Rest	70	M	W	12-25-47	12-30-47	I	Skull fracture, Laceration of brain
Skin Traction	79	F	W	10-17-49	11- 3-49	N	Cerebral hemorrhage
Skin Traction	84	M	W	12-14-49	12-30-49	N	Coronary occlusion
Bed Rest	89	F	W	5- 9-51	5-14-51	I	Arteriosclerotic heart disease with congestive failure
Bed Rest	84	F	W	8-15-51	10-24-51	I	Pneumonia, atelectasis, arteriosclerotic heart disease
Bed Rest	67	F	W	9- 5-52	12-30-52	N	Osteosarcoma with metastasis
Bed Rest	24	M	C	5- 2-51	5- 4-51	I	Shock, ruptured urinary bladder and small intestine, massive retroperitoneal pelvic hemorrhage
Skin Traction	79	M	W	2- 3-51	2- 4-51	I	Congestive heart failure, pneumonia
Bed Rest	86	F	W	6-17-52	6-17-52	*	Cerebral thrombosis, only lived ½ hour
Bed Rest	80	M	W	5-14-52	5-14-52	N	Coronary thrombosis, only lived 1 hour

I—Intertrochanteric fracture

N—Neck fracture

*—Unknown type of fracture

71 fractures were treated conservatively and 17 died (Table III). This gives a mortality rate of 24%.

SURGICAL CASES:

Fracture of the neck: 68% of these fractures were treated with insertion of the Smith-Petersen nail. The mortality rate was 9%. It is our opinion that the advantage of the Smith-Petersen nail over the Lorenzo screw is that the fragments can slide together without rotation as union takes places.

The screw holds the fragments apart after the third week when there is absorption along the fracture line, and thus prevents union.

Intertrochanteric fractures: Here again 68% of these fractures were treated with the Jewett nail, the modified Smith-Petersen nail. Prior to January 1, 1953 secondary procedures, such as hip reconstructions and prostheses were not done, as they had been with the fractures of the femoral neck. In October, 1952, one patient sustained a fracture

TABLE IV
RESULTS OF SURGICALLY TREATED HIP FRACTURES

Type of treatment	Total	Traced	Excellent No.	%*	Good No.	%*	Fair No.	%*	Poor No.	%*	Died No.	%*
FEMORAL NECK:												
Smith-Petersen nail	54	43	13	30	13	30	9	20	4	9	4	9
Includes:												
Moore nails												
Moriera screws	9	3							2	67	1	33
Lorenzo screws												
Hip reconstruction	4	4	1	25	1	25	2	50				
Hip fusion	2	1	1	100								
Blount plate	1	2	1	50			1	50				
Vitallium prosthesis	5	5	2	40	1	20	1	20				
Jewett nail	5	1					1	100				
Totals	80	59										

* Percent of traced

TABLE V
RESULTS OF SURGICALLY TREATED HIP FRACTURES

Type of treatment	Total	Traced	Excellent No.	%*	Good No.	%*	Fair No.	%*	Poor No.	%*	Died No.	%*
INTERTROCHANTERIC												
Jewett nail	50	44	7	16	15	34	9	20	7	16	6	14
Blount plate	15	11	4	36	2	18	2	18			3	27
Smith-Petersen nail	6	6	2	33	2	33	1	17			1	17
Smith-Petersen nail with well leg traction	2	2			1	50	1	50				
Totals	73	63										

* Percent of traced

of the basilar neck of the femur with a fragment of bone detached from the greater trochanter. This was treated with a Jewett nail. In December, 1952, the nail was found by x-ray to be broken. In April, 1953, a hip reconstruction was performed on this patient.

moral neck in 2 out of 3 cases, "is anatomic reduction and firm, technically sound fixation." This evolution has been facilitated by the great advances in aseptic technique, the improvement in the various types of anesthesia, the assistance obtained by radiologi-

TABLE VI
SUMMARY OF PATIENTS TREATED BY OPERATIVE MEANS WHO DIED

Type of Treatment	Age	Sex	Color	Date of Admission	Date of Death	Type of Fracture	Cause of Death
Moriera pin and stud bolt screw	86	F	W	1-20-48	1-27-48	N	Arteriosclerotic heart disease
Smith-Petersen Nail	85	F	W	3-28-47	5-18-47	N	Senility, myocarditis
Blount plate	75	M	C	12-26-47	1-8-48	I	Anesthesia (pentothal, nitrous oxide and oxygen)
Smith-Petersen nail	79	F	W	2-14-49	3-1-49	N	Cerebral hemorrhage
Jewett nail	54	M	C	11-18-49	12-6-49	I	Pulmonary embolism
Smith-Petersen nail	75	F	W	10-27-50	1-21-53	N	Congestive heart failure
Fred Thompson prosthesis - 2 yrs. later							
Smith-Petersen nail	67	F	W	10-7-50	11-27-50	N	Myocardial failure, hypertensive cardiovascular disease
Spica Cast							
Blount Plate	83	F	W	4-10-49	4-27-49	I	Senility, hip fracture
Smith-Petersen nail	86	F	W	7-20-51	8-2-51	I	Cerebral hemorrhage
Smith-Petersen nail	80	M	W	7-3-51	7-20-51	N	Generalized arteriosclerosis with arteriosclerotic heart disease
Jewett nail	74	F	W	11-23-51	12-7-51	I	Coronary thrombosis
Jewett nail	91	F	W	1-22-51	2-26-51	I	Cerebrovascular accident, pneumonia
Jewett nail	70	F	W	5-6-51	5-28-51	I	Senility, arteriosclerotic cardiovascular disease
Jewett nail	72	F	W	9-9-52	10-2-52	N	Cerebral thrombosis
Jewett nail	65	M	W	8-13-52	9-14-52	I	Pneumonia, Encephalomalacia
Smith-Petersen nail	78	M	W	9-17-50	10-10-50	N	Acute pyelonephritis

I—Intertrochanteric fracture

N—Neck fracture

153 fractures were treated by surgical means and 16 patients died. This gives a mortality rate of 10%, which is a great improvement over the non-surgical mortality.

COMMENT ON SURGICALLY TREATED PATIENTS

Early ambulation is possible, which lowers the incidence of complications resulting from prolonged recumbency. Very often the patients return home in two or three weeks after the operation. Vitallium prosthesis is invaluable for non-union and aseptic necrosis of the head. Five cases had this type of repair. One patient died, but she was in very poor condition, postoperatively. She was 75 years old, and had no desire to eat. She lived 3 months after the operative procedure. However, the other 4 patients are living and doing well, according to personal communication from their physicians.

Many fractures of the hip with displacement are being treated surgically. Cleveland and Bailey⁵ found that "our experience leads us to believe that the best means to secure this optimum result," i.e. to get uncomplicated union of the displaced fractures of the fe-

mal examination, the introduction of inert metals, the increased safety of the patient afforded by the prevention and care of shock with the use of blood and its derivatives and a better understanding of electrolytic balance, the care of the diabetic with insulin, and finally, the prevention and control of infection by antibiotics. There were 4 cases of infection in the surgical cases (3% of the traced cases). It seems a far cry to the days of Lister, less than 100 years ago, when the first wiring of a fracture of a patella was performed with his colleagues stating that if the patient lost limb or life, the surgeon should be tried for manslaughter.⁴

Conservative versus surgical treatment. Although there were no significant differences in age, sex, the type of general medical and nursing care, or general condition on admission between the patients treated conservatively and those treated surgically, the following factors were found to be significant in the end results:

1. There was an overall mortality rate of 30% of 57 traced patients who had frac-

tures treated by conservative means, as compared to an overall mortality rate of 13% in 122 traced patients who had fractures that were treated surgically.

2. The amount of nursing care, general medical care, and attention required of every one concerned was much greater for those patients treated conservatively than for those treated surgically. In only one of the 16 fatalities occurring in the surgical cases could the death be attributed to the operation itself. An autopsy was performed on this patient and the findings were compatible with an anesthetic death. The remaining causes of death did not differ significantly from those of the 17 fatalities among the conservatively treated patients.

CONCLUSIONS

1. In the past 6 years 224 fractures of the hip were treated at the Delaware Hos-

pital. More cases were treated surgically, 153, against 71 cases treated conservatively.

2. The mortality rate for treatment of intertrochanteric and displaced neck fractures of the femur may be considerably lessened by closed reduction and insertion of adequate internal fixation.

3. At the Delaware Hospital the preferred means of internal fixation for fractures of the neck of the femur is the Smith-Petersen nail, and for the intertrochanteric fracture, the Jewett nail.

4. A greater number of patients obtain good or excellent results after hip fractures when closed reduction and internal fixation are employed than when non-surgical treatment is used.

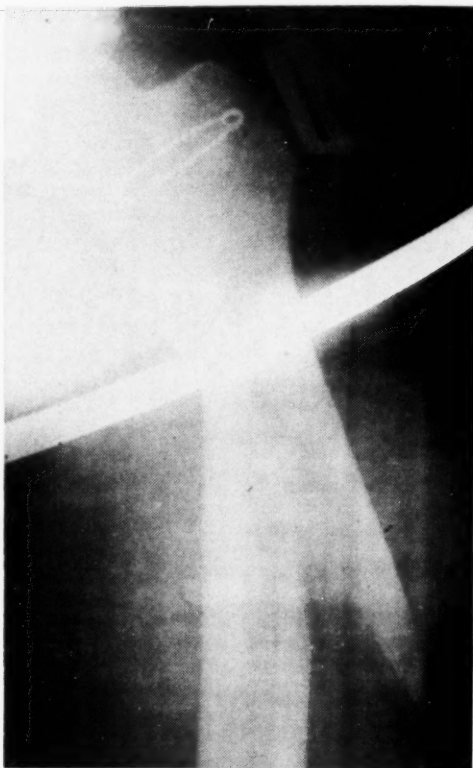


Fig. 1-a J. O., age 29, Case No. 196720, showing an intertrochanteric fracture involving the left femur with an oblique fracture involving upper third of the shaft.
10/22/52



Fig. 1-b Case No. 196720, Anterior-posterior view of left femur 12/17/52 after inserting Jewett nail.

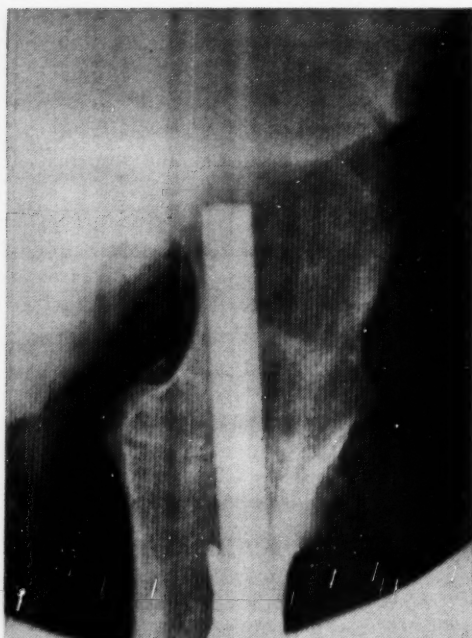


Fig. 1-c Case No. 196720, Lateral view 12/17/52
—result excellent. Patient ambulatory.



Fig. 2-b Case No. 142801, The pin has eroded through the head of the femur and is protruding into the acetabular fossa. The line of fracture is still visible.
11/5/47



Fig. 2-a L. S., age 64, Case No. 142801, Anterior-posterior view showing fracture through the neck with about 1.5 Cm. shortening.
12/16/46



Fig. 2-c Case No. 142801.



Fig. 2-d Case No. 142801, Smith-Petersen nail has been removed. There is evidence of bony union and some irregularity of the acetabulum. 1/27/48 (See 2-c)

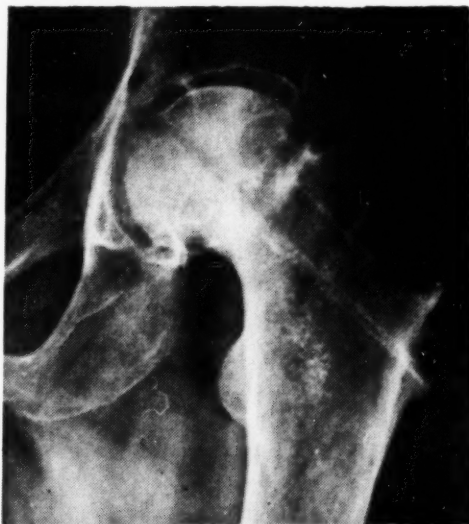


Fig. 2-e Case No. 142801, Shows complete union and some flattening of head. Patient uses cane or sliding chair to walk. Result fair. 4/7/48

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METHYL ALCOHOL POISONING

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The severity of the poisoning associated with the inhalation or direct ingestion of methyl alcohol has been recognized for many years. Blindness has been reported after the ingestion of as little as 4 cc.; death, with as little as 10 cc.

Until recently it has been widely believed that since the repeal of the prohibition act in 1933, poisoning from methyl alcohol ingested as an alcoholic beverage is a rare occurrence. In New York City during the 2 years preceding the repeal of the prohibition act, a total of 81 deaths was attributed to methyl alcohol. In the next 2 years, the total declined to 16.³

In 1943 Voegtlin and Watts⁴ reported 6 cases with 5 fatalities. Kaplan and Lev-reault⁵ reported 42 cases with 13 fatalities in 1945. The same year Jacobson et al⁶ reported 18 cases with 6 fatalities. Chew et al² presented 31 cases with 5 fatalities in 1946. Recently, Keeney and Mellinkoff⁷ reported a series of 23 cases with 6 fatalities. All of the above patients were service men.

At the Delaware Hospital in the past 2 years a diagnosis of methyl alcohol poisoning has been made 8 times with 5 mortalities. A positive history of recent alcohol ingestion was obtained in 4 of the 8 cases. Methanol ingestion was initially admitted by one patient and suggested by the history of 2 others. On subsequent investigation ingestion of methyl alcohol was affirmed in 2 other patients. Five of the 8 patients had blood samples tested by the method of Ozburn⁸ for the presence of methyl alcohol with positive results in all 5 of those tested. Four of the 5 deaths occurred within 2 hours of admission. One patient survived 14 hours before expiring; his case will be presented in this paper.

It is of interest to note that one of the patients who expired was found in his room drinking Sterno and a history of Sterno ingestion was obtained from 2 of the 3 patients who survived. Sterno, often referred to as "canned heat," is widely available in drugstores and hardware stores. The label states "for use only as a fuel" but does not

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include any specific warning that it is a poison if taken internally. Sterno[®] is a semi-solid colloidal gel which is essentially solidified methanol. For drinking purposes its liquid content of approximately 45 cc. is expressed by squeezing it in a cloth or between pieces of bread. The resulting extract is added to wine, soft drinks, or water. Allegedly, frequent handling of Sterno discolors the fingers blue; we have had no opportunity to confirm this by personal observation. In Wilmington, habitue's are colloquially referred to as "blue flammers."

It is our contention that poisoning from methyl alcohol is not at all rare, especially among chronic alcoholics of a low economic level, and with an increased awareness of the prevalence of drinking methyl alcohol the diagnosis will be made with increasing frequency.

A patient intoxicated with methyl alcohol may initially appear to be an ordinary inebriate. However, it is not unusual for the methanol poisoned patient to present a puzzling syndrome, the diagnosis of which may be difficult or impossible unless the possibility of methanol intoxication is kept in mind. One case in which the clinical picture was highly suggestive of other illnesses will be presented and the pathologic physiology of methanol intoxication discussed.

CASE REPORT

F. V. W. Case No. 188093. A 65 year old Negro male was brought to the Emergency Room with the chief complaint of abdominal pain. He gave a history of several days of vomiting and diarrhea, frequency of urination, and marked thirst. The abdominal pain was dull in nature and most marked in the right lower quadrant. He admitted drinking one quart of unspiked sherry wine the day before. Later his friends stated that when the patient first became ill he admitted drinking several cups of some kind of alcoholic beverage just prior to the development of his symptoms, the exact contents of the alcoholic mixture being unknown.

On admission, he appeared acutely ill. Blood pressure was unobtainable. Pulse was 120. Temperature was 99°F. The patient's breath had had an odor described by one observer as having a "fruity" quality but not typical of acetone. Hyperpnea with apparent air-hunger was noted. Flexion of the head caused slight pain in the neck and head. His lungs were clear to auscultation. There was abdominal distention, and right lower quadrant and epigastric tenderness with no palpable abdominal masses. Peristalsis was faint; the abdomen was soft. Rectal examination revealed normal feces. Deep tendon reflexes were hyperactive in the lower extremities.

By catheterization only a few drops of urine

were obtained which gave a negative Clinistest reaction; no acetone test was performed. Laboratory studies included blood urea nitrogen, 15 mg.%; carbon dioxide combining power, 20 vol.%; blood sugar, 320 mg.%. Electrocardiogram revealed a deep S I, small Q II and Q III, with inverted T waves in II, III, and CR II. A flat plate of the abdomen showed nothing abnormal.

The initial clinical impressions were diabetes mellitus with acidosis, posterior myocardial infarction, lower nephron nephrosis secondary to hypotension, and possible methyl alcohol intoxication.

The patient was treated with regular insulin and intravenous fluids, including 5% and 10% glucose in saline, normal saline, and whole blood. In 4 hours his carbon dioxide combining power increased from 20 vol.% to 31 vol.%. During this time his blood sugar fell from 320 mg.% to 46 mg.% after a total dose of 100 units of regular insulin. The hypoglycemia was corrected by the infusion of hypertonic glucose. About this time, the blood methyl alcohol test was reported as positive.

Fourteen hours after admission, the patient expired. During this time he excreted only 25 cc. of urine.

Post-mortem examination revealed generalized congestion of the lungs, liver, gastrointestinal tract, spleen, kidneys, and brain. Portal cirrhosis with focal necrosis and small areas of hemorrhage was present. There was myocardial fibrosis but no areas suggestive of recent infarction. The cerebrospinal fluid gave a positive methyl alcohol test.

The symptoms and signs of methyl alcohol intoxication may be divided into categories secondary to the various pharmacologic actions of methyl alcohol.^{10, 11}

Like ethyl alcohol, methyl alcohol is a central nervous system depressant and has an irritant action on gastric mucosa. Thus any or all of the familiar symptoms of alcoholic intoxication may be manifest. As methanol is usually imbibed in combination with various ethanol containing beverages, symptoms of alcoholism alone are of no help in the diagnosis of methyl alcohol poisoning.

Methyl alcohol's well known specific toxicity for the optic nerve has been explained in several ways. One theory proposes that the formaldehyde and formic acid resulting from the partial oxidation of methyl alcohol have a direct irritant effect on the optic nerve. However, neutral formates which are quickly produced by formaldehyde's reaction with body protein are not extremely irritant.¹¹ More recently it has been suggested that tissue toxicity is directly proportional to the methanol concentration of the organ in question. Because of methanol's unlimited miscibility with water, its body distribution varies directly with tissue water content. It

is therefore to be expected that the eye should be most severely attacked since intraocular fluid has the highest percentage of water of all body fluids or tissues.⁷

Methanol ingestion causes a marked metabolic acidosis. It is this acidosis which is in large part responsible for the clinical picture of the poisoned patient.

Unlike ethyl alcohol, methyl alcohol is slowly and incompletely oxidized, the by-products of its oxidation being formaldehyde and formic acid.¹⁰ It is presumed to be this latter compound which is responsible for the metabolic acidosis of intoxicated patients as evidenced by their decreased carbon dioxide combining power and Kussmaul type respiration.

TABLE 1.

Pt.	CO ₂ vol. %	Bld. Sug. mg. %	Urine Meth. Alc. Acetone	Test
F. V. W.	20	320	?	+
B. B.	13	135	4+	+
H. S.	29	55	?	+
W. W.*	13	150	Tr.	+
S. H.*	22	206	?	+

?—Not tested

Tr.—Trace

*—Post-mortem studies

!—Method of Ozburn (Ref. 8)

Blood chemistries were obtained in 5 of our 8 patients (Table 1). In each case carbon dioxide combining power was markedly lowered. Blood sugar levels varied from decreased to increased amounts. It is therefore easy to see how a misdiagnosis of diabetic acidosis could be made if hyperglycemia is present. In the presence of a low carbon dioxide combining power with a decreased, normal, or only slightly increased blood sugar, diabetic acidosis may be ruled out in favor of some other type of metabolic acidosis, such as methanol poisoning. In hyperglycemic patients, rapid induction of hypoglycemia when a small amount of insulin is given, as in the patient F. V. W. presented above, indicates that the acidosis is not completely secondary to the ketosis accompanying hyperglycemia, as it is in a purely diabetic acidosis.

In 2 of our patients acetonuria was observed. Acetonuria has been reported a frequent finding by Jacobson and by Keeney.^{6, 7} Such an observation without an associated glycosuria should alert one to the possibility of methanol induced acidosis.

Neither methyl alcohol itself, formalde-

hyde, nor formic acid give a positive test for acetone using Rothera's method. Several possible explanations for the acetonuria suggest themselves. Wood alcohol, unless it is highly purified, varies a great deal in its percentage content of methyl alcohol. Among its impurities is acetone.¹¹ In addition, patients who have been on drinking sprees are apt to have had decreased caloric intake. Frequently they have been vomiting and usually they are clinically dehydrated. Most civilian patients seen with methanol poisoning will be chronic alcoholics in whom liver damage and resultant malfunction of carbohydrate regulating mechanisms is not unlikely. Thus, they may well have developed a starvation-state type of ketosis with resultant acetonuria.

The electrocardiographic changes in the patient F. V. W. presented above were suggestive of posterior coronary disease. He expired before repeat tracings could be obtained. No blood pressure was auscultable on admission and prolonged hypotension may have been an inducing factor in the production of myocardial ischemia. However, although diffuse myocardial fibrosis was present, no areas of recent infarction were found at autopsy. Symptoms suggestive of coronary occlusion were also present in Merrit's¹² case in which electrocardiographic abnormalities were noted in a tracing taken the second day of hospitalization, the abnormalities consisting of flat T waves in lead I, with inverted T waves in leads II, and III. All T waves were upright 2 days later.¹² In one of our patients (B. B., Table 1), a similar electrocardiographic changes were noted. At this time serum potassium was found to be 2.55 mEq/litre. (normal: 4.0-5.0 mEq/litre). Following the administration of potassium chloride, T waves assumed an upright position in all leads. It is suggested that the electrocardiographic changes occurring with methyl alcohol poisoning are due to hypokalemia secondary to the metabolic acidosis, as in acidotic diabetes.

The therapy of methyl alcohol poisoning is primarily directed at correcting the resulting acidosis with parenteral and intravenous alkalis such as sodium lactate and sodium bicarbonate.^{2, 7}

SUMMARY

1. Methyl alcohol poisoning is not a rare occurrence. Eight cases have been diagnosed at the Delaware Hospital since 1951. Sterno is a frequent source of ingested methyl alcohol.

2. A case of fatal methyl alcohol poisoning is presented. Methyl alcohol intoxication may clinically simulate diabetic acidosis.

3. In addition to positive methyl alcohol blood tests, a lowered carbon dioxide combining power without glycosuria is highly suggestive of methyl alcohol poisoning, as is acetoneuria without glycosuria.

4. Hypokalemia may be associated with the acidosis of methyl alcohol poisoning.

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ENTEROCOCCAL ENDOCARDITIS

Report of a Case Successfully Treated with Penicillin and Streptomycin

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Bader et al¹ have recommended that all treatment failures in subacute bacterial endocarditis be reviewed and reported in order to improve the methods of treatment in this

frequently fatal disease. We believe that all cases of successful outcome should likewise be reported and offer the following case in support of that thesis.

Enterococcal endocarditis has presented a greater therapeutic problem with present day antibiotics than has the more common infection with alpha hemolytic streptococci.² This is due largely to the relative resistance of the enterococci to penicillin.³ Reports of successful treatment of enterococcal endocarditis include the use of: penicillin in massive doses,⁴ penicillin in combination with caronamide,^{3, 4, 5} penicillin with concomitant heparin administration,² penicillin with streptomycin,⁴ penicillin and aureomycin,⁴ and aureomycin alone.⁶

After reviewing the literature, it is apparent that no categorical statement can be made regarding the antibiotic or combination of antibiotics which should be used in the treatment of enterococcal endocarditis. One must carry out *in vitro* sensitivity studies, along with procedures to demonstrate possible synergism of combined antibacterial agents. While awaiting the results of these studies, it is proper to initiate therapy with penicillin and streptomycin. The investigations of Jawetz⁷ suggest that antagonism with this combination is highly unlikely, and that synergism might be expected.

CASE REPORT

T. A. (DH No. 188989), a 35 year old colored female, was admitted to the Medical Service of the Delaware Hospital on June 19, 1952, with a chief complaint of pain in the right index finger and right toe of about two weeks duration. The patient had suffered migratory joint pains at the age of 17, at which time she was put at bed rest for three months. She subsequently remained in good health until February, 1952, when an inevitable abortion occurred. A dilatation and curettage was performed on February 15, 1952, which was followed by a similar operation and hysterectomy in April, 1952. This was carried out for profuse vaginal bleeding, fever, and anemia. Pathological examination of removed tissue revealed acute inflammation and degenerated decidua and villi. Post-operative medication included 600,000 units

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of penicillin (total 4.2 million units), and 4 grams of a sulfonamide (total 8 grams) per day. At the time of discharge the patient had been afebrile for one day, but still showed an anemia. The patient was well for six weeks, except for aching in the thighs and an evening temperature elevation.

On May 30, 1952, the patient experienced a sudden sharp pain in the right little toe, and one week later a sudden severe pain in the tip of the right index finger. A "spot" under the nail of this finger was also noticed, with some swelling of the lateral surface of the distal phalanx. The family physician referred the patient to the Delaware Hospital for admission.

On admission, the patient appeared chronically ill. An oval-shaped subcutaneous hemorrhage was noted on the flexor surface of the right little toe. There was a splinter hemorrhage under the nail of the right index finger, along with an Osler node on the same finger. No other petechial phenomena were noted. The lungs were clear by auscultation and roentgenography. There was a grade three systolic murmur replacing all of systole, and a crescendo-type presystolic murmur in the mitral area. A normal sinus rhythm was noted, with a pulse rate of 88. Blood pressure 95/70, temperature 99°, respirations 20. The liver and spleen were not palpable.

Admission laboratory studies showed 3.6 million RBC and 8,300 WBC, hemoglobin 11.2 gm., differential showed a slight left shift, with no abnormal cells noted. BUN 9.0 mg. per 100 cc., sedimentation rate (Cutler) 25 mm. in one hour. Urinalysis revealed *Esch. coli* and enterococci, with occasional erythrocytes and leukocytes, but no albumin. Admission blood cultures (venous and arterial) were positive for an enterococcus.

Penicillin was initiated one day after admission, in a dosage of 2.5 million units every 4 hours, while awaiting identification of the organism from the blood culture. On the third hospital day, the organism had been identified as *Streptococcus fecalis*, and on the fourth day, *in vitro* synergism with penicillin and streptomycin was demonstrated. At this time, 2 grams of streptomycin was combined with the daily dose of penicillin. On the seventh hospital day, the pa-

tient was still febrile, and had developed a petechial hemorrhage in the conjunctiva. The streptomycin was increased to 3 grams a day, and maintained, with the penicillin, for 30 days. Blood cultures taken on the third and fourth hospital days (on penicillin alone) were positive for *Streptococcus fecalis*, but 9 subsequent venous, arterial and bone marrow cultures were sterile.

No further embolic phenomena occurred during her hospital stay, and the patient remained afebrile for the remainder of her hospital stay. The hemoglobin fell to 10.1 gm., and the erythrocyte count to 3.5 million per cu. mm. A total of 1000 cc. of whole blood was administered in repeated small transfusions, to correct the anemia.

During the second week of therapy the patient developed urticaria, which was relieved by antihistamine therapy. On the 28th day of treatment a pyogenic ulcer developed on the buttock at the site of injection, which responded rapidly to local bacitracin therapy. Culture of the pus showed coliform bacilli and *Staphylococcus albus*.

Therapy was terminated after a total dosage of 540 million units of penicillin and 96 grams of streptomycin. Blood and bone marrow cultures taken 5 days after end of therapy remained sterile. The patient remains asymptomatic and afebrile after discharge, and the infection is considered to be arrested.

BACTERIOLOGY

The streptococcus isolated from arterial and venous blood cultures produced no hemolysis on human blood agar streak or pour plates incubated 48 hours at 37° C., and overnight in the refrigerator. Growth occurred in tryptose broth containing 6.5 per cent sodium chloride, and in 0.1 per cent methylene blue milk (with dye reduction and clotting). Lactose, sucrose and salicin were fermented promptly, with the production of acid. Colonies on 5 per cent sucrose agar were small and non-mucoid; no jelling occurred in 5 per cent sucrose broth. Loeffler's medium was not liquified in 48 hours. These characteristics served to identify the organisms as *Streptococcus fecalis*. Antibiotic susceptibility by the filter paper disc technic showed only moderate inhibition by penicillin and streptomycin. A serial tube dilution pro-

cedure showed the following minimum inhibitory concentrations: penicillin, 2.5 units per cc.; streptomycin, 50 micrograms per cc. Multiple staggered serial dilutions containing known mixtures of the two antibiotics demonstrated a synergistic activity of the combination. These resulted in the following minimum inhibitory concentrations, in combination: penicillin, 1.3 units per cc.; streptomycin, 12.5 units per cc. No difference was noted in strains recovered in the original and two subsequent blood cultures.

The combined therapy in this case was guided by the Schlichter procedure.⁸ In this direct method the bacteriostatic activity of the patient's serum is determined by assay with the strain of microorganism originally isolated from the patient. Serial two-fold dilutions of the patient's serum, taken at various intervals in the therapy schedule (particularly at the point of lowest blood concentration 5 minutes before the next injection), are made in broth. To these tubes are added a measured inoculum of the patient's bacteria. After 18-24 hours of incubation, the highest dilution of serum completely inhibiting growth is recorded. No definite "adequate" serum level can be set at this time, since this varies with the sensitivity of the causative organism, the type and severity of the infection, and the possible deterioration of the antibiotic *in vitro*. Schlichter, however, considers an effective serum level as that which inhibits growth in the first two tubes, i.e., a 1:2 dilution. In all specimens we assayed by this procedure serum levels varied between a 1:4 and 1:16 dilution. It was felt, therefore, that the optimal dosage had been achieved, and it was so maintained throughout the course of treatment.

DISCUSSION

Three factors other than antibiotic therapy undoubtedly played major parts in the favorable outcome of this case. First, the early recognition of the nature of the illness by the family physician, and his prompt referral of the case to the hospital clinic. Second, the relatively good physical state of the patient during her course of illness. Third, the absence of congestive failure before, during or after the endocardial infection. The

prognostic importance of these factors has been repeatedly emphasized.

On the other hand, this case lends weight to the argument that patients with rheumatic heart disease should be given prophylactic therapy before surgery. The token dose of penicillin given in this case does not approach the 8 million units per day recommended before rectal or genitourinary surgery.² It may be argued that a daily dose of 15 million units of penicillin was sufficient to effect a cure, without the addition of streptomycin. Unfortunately, no blood specimens were obtained during penicillin therapy alone, for Schlichter assay. However, the appearance of a petechial hemorrhage in the conjunctive after penicillin was started, and the fact that two positive blood cultures were obtained on penicillin alone, indicates that streptomycin was an essential adjunct to successful therapy.

As previously indicated, the Schlichter method for evaluating effective antibiotic therapy correlated well with the clinical course of this patient. We feel this type of planned therapy to be invaluable in the proper handling of such an infection.

SUMMARY

1. A case of enterococcal endocarditis due to *Streptococcus fecalis* is presented.
2. The case was successfully treated with a combination of penicillin and streptomycin therapy, based on a demonstrated *in vitro* synergism.
3. The combined therapy was guided by determining the optimal effective antibacterial level of the blood serum, using the method of Schlichter.

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THE TREATMENT OF THE PATIENT WITH ADVANCED CANCER*

Medical Aspects—R. W. Frelick, M. D.¹

The first prerequisite in handling a suspected patient of advanced cancer is to confirm the diagnosis of cancer before the patient is classified as "terminal" or "incurable." Once this is determined an investigation should be made as to whether or not everything possible has been done for the patient. Recently forty patients were transferred from a state nursing home to the James Ewing Memorial Hospital in New York. On careful study it was determined that of this forty, ten did not have carcinoma, another ten had carcinoma that was amenable to treatment, and only four out of the forty were cases that could honestly be described as "terminal" or "incurable." Once the patient has been classified, the first medication that is needed is the encouragement and friendly attitude of the physician. The physician should not shun or hesitate to visit patients for whom he realizes he can do very little.

In the relief of pain in the advanced cancer patient, the first medication should be the simpler non-narcotics. Many advantages can be gained by the use of aspirin alone, or in combination with codeine. Stronger drugs such as morphine, demoral, etc. should be withheld until they are definitely needed. A new drug, Dromeron, about which little is known, at present shows some promise in the relief of pain. Its action is longer than that of morphine and its undesirable side reactions appear to be less.

Surgical Procedures—P. D. Gordy, M. D.²

The use of surgery for the relief of intractable pain in the advanced cancer patient should be considered carefully, particularly as to the time at which such a procedure should be done, since there is little benefit in doing an extensive neurosurgical procedure on a patient whose life expectancy is such that he will not survive the post-operative period of discomfort. There are three commonly used methods available for the relief of pain.

The first, cordotomy, consists of section of the spinal thalamic tract. It is done bilaterally because of the crossing of the fibers, usually at a level of D-1 or D-2, which permits an area of analgesia to a level approximately even with the nipple line. The procedure is a rather extensive surgical one, and there are two common complications which can develop. The first is an atonic bladder, the second, leg weakness which develops either as a result of section or from edema of the pyramidal tracts. In selected patients, however, cordotomy is a very effective method of relieving pain.

The second method is that of lobotomy. This does not necessarily relieve the pain but changes the response of the patient to pain so that although pain may still be present, it is not appreciated nor does it carry the apparent discomfort that was present previously. About sixty per cent of patients can be expected to be relieved by a unilateral lobotomy. The remainder may require bilateral lobotomy for complete relief. With the latter, there is usually marked personality changes, but good results can be expected.

The third method is that of rhizotomy or section of selected nerve roots for the relief of pain. This procedure is particularly effective for relief of pain of the face and naso-pharynx, where the fifth and ninth thoracic and upper cervical nerve roots are sectioned.

Surgical Aspects—Leslie Whitney, M. D.³

In many advanced patients palliative resection of the primary lesion is an important factor in the relief of pain. Such a procedure might not prolong the patient's life, but often makes the patient more comfortable in the terminal stages. Many problems of handling advanced cancer patients are mechanical ones. In carcinoma of the head and neck there are frequent feeding problems and problems of breathing which may be solved by passing feeding tubes through the esophagus or by gastrostomy. Where there is tracheal obstruction, tracheotomy is frequently indicated. In carcinoma of the stomach one of the major problems is that of nutrition and the relief of vomiting. Often this has been

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benefited by the use of the Levin tube for aspiration of the stomach contents. In obstruction of the bowel, due to malignancy the use of the Levin tube or Miller-Abbott tube for decompression is a necessary form of treatment even though it upsets the patient's nutrition and electrolyte balance. In carcinoma of the urinary bladder, the relief of distention indicates an indwelling catheter. Tumor that has seeded itself upon the peritoneal surfaces often results in ascites which necessitates paracentesis. Like many other debilitating diseases the development of decubitus ulcers presents a serious problem to both medical and surgical departments. Modern management of these conditions is as important as any other therapy.

Psychiatric Problems—F. A. Freyhan, M. D.⁴

The psychiatric approach to cancer has frequently been overlooked. This is the first conference in recent years, that it has been mentioned. Psychiatrists should be accepted as a member of the working team in general hospitals rather than as an outsider or one assigned merely to the care of institutionalized patients. He then can be of great assistance in the care of patients through daily bedside contact. Great possible damage can, unthinkingly, be done to the patient by lack of care on the part of the staff discussing a patient's history within his hearing. The conference practice of having the patient wait outside of the door where he is sure to hear part of the discussion is a bad one, since the patient is so apt to misinterpret or misunderstand what was said.

One thousand cases of trans-orbital lobotomy have been done with good results. The procedure is fairly simple. It is done without the patient actually realizing that an operation had been performed. In performing a lobotomy an instrument is introduced through the conjunctiva and the cortical fibers are sectioned from below rather than from above, as was indicated in the procedure described by Dr. Gordy. This procedure also results in personality change, but the patient is frequently released from severe pain.

Shock therapy has also been used sometimes

with patients with advanced carcinoma, particularly those who have a great deal of anxiety. Results have been fairly good. It appears to disassociate the patient from reality and to some extent lessens the response to pain.

CLINICPATHOLOGIC CASE REPORT

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and

PARK W. HUNTINGTON, JR., M. D.**

PRESENTATION OF CASE ***

The patient, a 62 year old white female was admitted to the Delaware Hospital complaining of swelling of the abdomen for six months. The patient first noted abdominal swelling six months previous to admission. She states that there was some weight loss associated with this. There had also been abdominal pain present in the right upper quadrant which was relieved by food and was sharp, stabbing in character. There was also pain around a right inguinal hernia incision. There was associated anorexia with episodes of diarrhea and constipation. She had noticed mucus in stools but no blood or tarry stools. The patient had chronic cough productive of white sputum that precipitated gagging, but there had been no nausea or vomiting.

Past Medical History: Patient states she had three previous attacks of pneumonia with pleurisy. There had been several admissions to this hospital for operative procedures. In 1942 patient had supravaginal hysterectomy; repair of an incisional ventral hernia was done in 1949. There was also a cholecystectomy and appendectomy at a former, earlier date. Patient had been admitted to this hospital one month previous to present admission at which time she was complaining of generalized abdominal pain. At that time examination revealed recurrent ventral abdominal hernias. Treatment was conservative at that time with bed rest and sedation and patient was discharged improved. Family history revealed the patient's father and three brothers had carcinoma. No history of diabetes. Patient's

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daughter was thought to have had tuberculosis.

Systemic Review: Head-Ears: occasional earache in left ear and occasional tinnitus. Nodes: negative. Eyes: negative. Mouth and throat: dentures present. No dysphagia. Neck: no goiter; no stiffness. Chest: no pain. Patient has chronic cough. No hemoptysis. Cardiovascular system: ankles swell occasionally—worse at night. Shortness of breath on occasion with nervousness on exertion. No palpitation. No nocturnal dyspnea. G. I. System: as in history of past illness. G. U. System: No incontinence, occasional nocturia. No hesitency, frequency or urgency.

Physical Examination: Patient is an elderly white female sitting up in bed, in no acute distress. Temperature 98.8, pulse 104. Respirations 24. Blood pressure 170/110. Skin dry and wrinkled. Eyes: pupils dilated, react to light and accommodation. Fundi show A-V defect with increased sclerosis of arterioles. Conjunctivae appear normal. Sclerae are slightly icteric. Ears and nose: No discharge or perforation. Mouth: no pharyngeal injection. Small yellowish papules present on buccal mucosa. Neck: supple. Trachea in midline. Thyroid not palpable. Chest: there is dullness and rales present bilaterally at the bases. Heart: there is slight enlargement on the left to percussion. Tachycardia present. Heart sound clear. No significant murmurs present. Abdomen: greatly distended. There is a large 12.0 Cm. scar in the upper right quadrant with multiple scars in the suprapubic area. There is a right inguinal hernia present. A fluid wave is palpated. There is no shifting dullness present. Liver and spleen are not palpated. There are no masses palpable. Extremities marked varicosities. No edema is present. Skin: multiple spider angiomas are present about the neck, back and right arm.

Course In Hospital: On 12/14/51 patient had paracentesis—3700 c.c. of straw-colored fluid was removed. During procedure patient began to vomit and it was discontinued. On 12/18 patient vomited approximately 30 c.c. of fresh blood and several hours later vomited 200 c.c. of clotted blood. This was followed by another bout of hematemesis fol-

lowing which a transfusion of 500 c.c. of blood was given. On 12/19/51 while eating patient suddenly vomited 300 c.c. of clotted blood. Another transfusion of 500 c.c. of blood was given. On 12/20/51 patient noted to have become progressively unresponsive. On 12/23/51 patient reported comatose. On 12/24/51 patient's blood pressure dropped rapidly. Patient expired at 8:35 P.M. on 12/24/51.

Laboratory Studies: On 12/10/51 Chest x-ray: Accentuated linear markings suggesting possibility of some passive congestion. There is no evidence of definite cardiac pathology. There is no evidence of infectious change in the lung fields. On 12/23/51 EKG: patient has left ventricular hypertrophy but recent infarction has not occurred. The suspicion of previous posterior wall myocardial infarction is present. On 12/19/51 RBC 4.0; Hgb 86%; 13.4 gms.; Hematocrit 40%; WBC 5,600 with polys segs 45%; non segs 1%; lymphocytes 50%; Monocytes 2%; Eosinophiles 2%. On 12/21/51 blood sugar 100 mg.%, 12/24/51 blood sugar 179%; BUN 15 mg.% on 12/21/51; 12/24/51 plasma chlorides 620 mg.%; globulin 4.04; serum cholesterol 172 mg.%; on 12/7/51 Icterus index 17 units; on 12/24/51 10 units Vandenberg—total 3.84 mg.%; direct 1.79 mg.%. On 12/10/51 Cephalin cholesterol flocculation: 24 hr.—2 plus; 48 hr.—2 plus. Thymol turb. 1 plus. On 12/10/51 Feces: benzedine test 1 plus; guaiac test—negative. Mazzini—negative. On 12/2/51 Urinalysis—Sp. Grav. 1.019; Reaction—alkaline; albumin, sugar and acetone—negative; WBC 2-3/hpf; Many squamous epithelial cells and few mucous threads. On 12/13/51 Negative fore bile; contains normal amounts of urobilinogen. Prothrombin 52%.

DIFFERENTIAL DIAGNOSIS

Dr. Vaughn R. Sturtevant: This is a 62 year old white female with a past history of recurrent pneumonia and pleurisy and who had had removed some years previously her uterus, gall bladder, and appendix.

Six months prior to the admission which occasions this discussion, and about seven months prior to her demise, she had the onset of her chief complaint: swelling of the abdomen, which was subsequently found due to

ascites. One month before this admission she had been in the hospital with generalized abdominal pain and a ventral hernia which was not repaired. Evidently she was thought not to be a good candidate for surgery at that time, in contrast to two years before then.

On admission she appeared with her chief complaint and with right upper quadrant pain, weight loss, anorexia, diarrhea, and constipation—symptoms referable to the G. I. tract, but which may be mere accompaniments of ascites. Also at this time she had been having shortness of breath, ankle swelling, and a hypertension of 170/110. In connection with these findings, a chest film a few days after admission showed passive congestion of the lungs, and on physical examination rales were heard bilaterally at the bases. However, perhaps the most significant findings on admission were the ascites, multiple spider angiomas, and scleral icterus later confirmed by icterus index of 17.

In the next few days in the hospital, the patient had several liver function tests: relatively normal cephalin and thymol tests, normal amounts of urine urobilinogen, slightly diminished prothrombin time, no bile in the urine.

A paracentesis done, but not completed, relieved the patient of 3700 c.c. of straw colored fluid. This gives us the impression that this patient had a fairly large amount of fluid in her abdominal cavity. It would be useful to know whether or not a spleen could be felt at the end of this procedure.

The most important feature of the course of this patient's hospital course was the repeated hematemesis repaired by transfusion. I judge that this repair was adequate since no mention is made of shock and a blood count done the day after the first hematemesis showed a normal amount of hemoglobin. The next most important feature of this patient's course was the gradual lapse into coma, again without preceding shock and without neurological localizing symptoms apparently. An EKG done on the third day, after she was becoming progressively unresponsive showed no recent infarction. On the day of the patient's expiration she had an elevated globulin (and probably a demin-

ished albumin), and her Vandenberg then was 3.84/1.79. Two days before this, in spite of previous G. I. bleeding, her BUN was only 15, a further suggestion of possible liver disease. The elevated blood sugar on the day of expiration is inconsistent with the normal one two days before; this may have been a consequence of a CVA or, more likely, she had had intravenous glucose a short while before the blood sugar specimen was drawn.

SUMMARY

In summary, this is a patient with a short history of considerable ascities and minimal physical and laboratory signs of liver disease who suffered sudden hematemesis and gradually lapsed into a coma and expired. In addition she had hypertension, rales, shortness of breath, and an x-ray which showed chronic passive congestion of the lungs. Her previous operations, the normal urine and BUN, relatively normal blood picture, and absence of specific neurological findings tend to rule out diagnostic possibilities in most of the symptoms. What pathologic entities then could have produced this picture? We are confined largely to the cardiovascular and gastrointestinal system.

The hypertension, chest film, and stigmata of congestive heart failure present force one to make the diagnosis of hypertensive cardiovascular disease, but one is hesitant to give full credit to the failing myocardium for her congestive signs and symptoms inasmuch as almost any disorder that could produce severe ascites might produce some pulmonary congestive signs and symptoms as well, and I do believe she has an extra cardiac cause for her ascites. The possibility of a cerebral vascular accident as a cause of death should be mentioned here. The patient's gradual unresponsiveness without localizing neurological signs is against this. Cardiac cirrhosis might be considered also, but this history is too brief for this, the cardiac symptoms are too minimal. This is rarely, if ever, a cause of G. I. bleeding.

A common cause of ascites, liver disease, and G. I. hemorrhage is Laennec's cirrhosis with esophageal or gastric varicosities. The quality and quantity of the ascites, the type of abdominal pain, the spider angiomas, the laboratory signs of minimal hepatic dysfunc-

tion and a demise characteristic of Laennec's cirrhosis. Ulcers of the upper G. I. tract are more common in patients with Laennec's cirrhosis than they are in the public at large, and this must be seriously considered as a cause of the hematemesis. Of course such an ulcer alone would not explain the liver disease. Against the diagnosis of Laennec's cirrhosis is the hypertension (a finding fairly uncommon in liver disease) and the absence of a history of alcoholism which is not essential but would be helpful, since this would be a good background for the existence of a hepatoma or a severe infection. These possibilities demand mention, although there is nothing specific to suggest either of them. On the whole, the evidence for a diagnosis of Laennec's cirrhosis is irresistible.

However, certain other possibilities must be ruled out. Gastric carcinoma or other gastric neoplasms would not be likely to cause hepatic dysfunction sufficient to produce jaundice. Of course the possibility of carcinomatosis as a cause of ascites must not be forgotten, but there is little other evidence to confirm this and the quality of the fluid is against it. Furthermore, the mode of expiration is most consistent with hepatic coma rather than neoplasm. Other causes of hepatic disease and ascities such as portal vein thrombosis should be considered. Portal vein thrombosis might be expected to produce this picture of massive ascites with very little edema of the legs, and this disease tends to occur most often in patients who have had numerous abdominal operations. Chiari's disease likewise, is a rare pathologic picture which simulates Laennec's Cirrhosis. Finally tuberculosis with tuberculous peritonitis could be responsible for the ascites, but probably not the jaundice and the nature of the demise. It would go well, however, with the observation that the patient showed shifting dullness (? due to adhesions) and with the hint of a family history of tuberculosis.

Therefore a cirrhotic liver was probably found at autopsy, but the absence of a bleeding point in the G. I. tract would not be unusual since varicose veins tend to collapse post mortem.

CLINICAL DIAGNOSIS

1. Hypertensive Cardiovascular Disease.

2. Laennec's Cirrhosis — death due to hepatic coma.

PATHOLOGICAL DISCUSSION

Dr. Park W. Huntington: At autopsy the heart was extremely flabby in consistency, showing degeneration of the myocardium. The abdominal cavity contained 1.5 liters of ascitic fluid and numerous adhesions. The uterus and gall bladder were absent. The liver was slightly small in size, and a diffusely yellow-gray color. There was a fine fibrotic nodularity throughout which was present in all cut sections. In the distal one-third of the esophagus there were numerous dilated, tortuous veins, some showing punctate areas of rupture through the mucosal surface of the esophagus.

Microscopic sections of the liver showed a lobular distortion of the architecture by fibrous tissue, typical of portal cirrhosis.

PATHOLOGICAL DIAGNOSIS

1. Myocardial failure
2. Laennec's cirrhosis (Portal)

CLINICAL EVALUATION OF A CETYLPYRIDINIUM CHLORIDE COUGH MIXTURE

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The common cold, with its associated symptoms, is a continuing problem of medical science as well as of industry because of the estimated loss of one hundred million work days, or in excess of one billion dollars each year in the United States.^{1, 2} Experimental medicine has been and is investigating the etiological agent or agents, but to date, although a multitude of secondary bacterial invaders have been isolated, the underlying primary cause—whether bacteria or virus—has yet to be identified. Since no one procedure is specific for the prevention or cure of a

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cold, the search for relief must lie in symptomatic treatment.

Cough is one of the most frequent symptoms for which the "cold" patient seeks medical attention. The function of a cough is to rid the body of irritants originating in the respiratory system; be they accumulated mucus, inflammatory exudates, extravasated blood, or foreign bodies. The multiplicity of excitants which may elicit cough should be recognized. Pathological changes in any part of the upper or lower respiratory tree whether of a mechanical, toxic, infectious, allergic or neoplastic origin, may provoke cough. Therefore, for the intelligent and efficient treatment, the etiological agent must be determined and appropriate measures instituted.

The cough center, responsible for voluntary coughing, lies in the medulla oblongata near the respiratory center, and as such is activated from the higher cerebral centers. The involuntary or spontaneous cough, which is more commonly encountered clinically, is however the end result of a reflex arc. The afferent impulses originate in the nerve endings of the superior or recurrent laryngeal nerves, the vagal endings in the lung, or the pleural nerves, the most sensitive endings lying in the mucosa of the larynx and the carina of the trachea. Additional sites of cough origin are the throat, palate, and posterior nasopharynx. These impulses proceed via the afferent fibers to the tractus solitarius where the efferent impulses are discharged to all the thoracic and abdominal muscles of respiration. The cough reflex consists of a brief inspiration, closure of the glottis, and a forceful expiration which, with the glottis closed, builds up intrapulmonary pressure. Then, a sudden opening of the glottis may expel any offending material from the air passage.

It is reasonable to assume that the forces of coughing are capable of evacuating most inflammatory products or foreign bodies from the respiratory tract. In the case of fully developed bronchopulmonary infections such as pneumonia, tuberculosis, bronchiectasis, and lung abscess with copious exudate, one would expect a successful drainage under the effect of a cough; in essence, a productive

cough, if no mechanical obstruction is present and both structure and mucosa of the bronchial tree are intact. There are a number of instances, however, when a cough is absolutely or relatively unproductive in proportion to the effort expended. This is a result of excitation of the sensory nerve endings of the cough reflex by materials or structures which it is impossible to dislodge. Useless or inadequate cough (tussal insufficiency) may be brought about by any of the following situations:

1. Upper respiratory infections such as pharyngitis, laryngitis, or tracheitis, or in early bronchial or pulmonary infections where the exudate is insufficient or too tenacious for evacuation.

2. Intrathoracic neoplasm such as bronchogenic carcinoma, lymphoma, teratoma, or metastatic malignancy or masses pressing on the respiratory system from without, such as esophageal diverticulum, aortic aneurysm, or substernal goiter.

3. Obstruction or irritation of the respiratory passages from such things as foreign body, irritant gases or dusts, pneumoconiosis, or post-nasal drip.

4. Psychogenic as in psychoneurosis or neurosis, or neurogenic as in injury to the recurrent laryngeal nerve.

Severe coughing associated with tussal insufficiency is undesirable because of the many adverse physiological effects which result. McCann and his associates³ have demonstrated that during severe paroxysms of coughing the intrapulmonary pressure rises to 200 mm. of mercury (270 cm. of water) above atmospheric pressure. This excessive pressure may cause rupture of weakened elastic fibers, with subsequent fibrosis and emphysema. Fluoroscopic examinations of the chest during the Valsalva maneuver (forced attempt at expiration with the glottis closed) have shown that the increased intrathoracic pressure results in a diminished cardiac output since the venous return to the heart from the periphery is impeded, as is the ingress of blood into the lung parenchyma. Pulmonary hemorrhage, spontaneous pneumothorax, hernial protrusion, anorexia, vomiting, headache, fractured ribs, and mediastinal or sub-

cutaneous emphysema may be precipitated by strenuous, protracted, unproductive cough.

Therefore, the treatment of a cough should be primarily aimed at the removal of the stimulating factor. If this is not possible, the aim should be to soothe the mucous membranes and obtund the nervous transfer of impulses which initiate the cough reflex.

The central suppressive action of codeine and similar drugs is familiar to all, so that the experimental study conducted here was limited essentially to variability in the expectorant medications employed.

DESCRIPTION OF PRESENT STUDY

The purpose of the present study has been to ascertain the influence of a relatively new chemical, Cetylpyridinium Chloride, on the symptom of cough in a group of clinical ambulatory patients, and to draw conclusion as to its relative effectiveness.

A preliminary review was made of the case histories of 1,311 patients. On the basis of these observations a rigidly controlled investigation was conducted with five cough mixtures with only one containing Cetylpyridinium Chloride and one commonly prescribed expectorant containing a narcotic, on a representative cross section of people of all ages, incomes, and occupations. The cough mixtures which seemed most effective in the preliminary study were included in a second investigation during the past winter. In the second investigation on 682 patients with an age range from five months to 84 years, the following observations were noted: (a) onset of relief; (b) degree of relief; (c) duration of cough; (d) occurrence of side-effects; (e) complications. A tabulation of the findings is given in Chart I.

Every possible precaution was taken so that neither the attending physician nor the patient were cognizant of the identity of the preparation being dispensed. All syrups were rebottled by our laboratory in standard 4 ounce prescription bottles which carried plain direction labels and only alphabetical identification (A to F inclusive). To insure a fair distribution of all six products under observation, in so far as possible, they were dispensed in constant alphabetical rotation,

i.e., the first patient received A, the next B, the next C, and so on. All patients included in this clinic were suffering from the common cold with an accompanying cough.

The subjective effects of the various products tested were described to the attending physician by the patient and recorded by the physician.

The data on side effects in Chart I is particularly interesting because of the tremendous variations in the products tested. In some instances, though the degree of relief was good, patients actually refused to continue to use a prescribed medication because of the unpleasant gastric symptoms elicited by its administration. The high incidence of nausea from some of the products can probably be correlated with certain of the medicaments contained therein. It is interesting to note that actual vomiting occurred only with Cough Syrup F, which contained codeine.

Cough Syrup A, which was the only mixture containing Cetylpyridinium Chloride and which had been outstanding in the initial study, again gave the best all around results and the most beneficial therapeutic effects in the treatment of coughs due to the common cold. It was well tolerated by the patients of all ages and was free from any undesirable side effects.

The active ingredients of this product are: ammonium chloride; sodium citrate; glycerin; Cetylpyridinium Chloride; menthol, eucalyptus, camphor, and other aromatics. The principal active ingredients of this product are, therefore, well-known expectorants in a palatable, pharmaceutically elegant vehicle. Cetylpyridinium Chloride, a quarternary ammonium salt, also known as Cetamium, manufactured by the Vick Chemical Company and contained in Vicks Cough Syrup, has the formula $C_{21}H_{38}NCl$. According to the N.N.R., it is best known for its exceptionally high bactericidal activity with negligible toxicity to tissues. Equally important, but less well known, are its surface tension lowering properties which in solution should permit greater spreading and penetrating action.

It therefore seems logical to assume that

CHART I

Cough Syrup	A	B	C	D	E	F
Number of Cases	113	110	113	121	115	110
Onset of Relief (minutes)*	59	87	102	105	109	83
Degree of Relief (complete—100%); (partial—50%; none—0)	98%	85%	87%	80%	79%	86%
Duration of Cough (days) after medic. started	4.6	6.8	6.6	6.9	7.2	6.7
Side Effects						
(a) Nausea	0	5%	15%	54%	65%	15%
(b) Vomiting	0	0	0	0	0	5%
(c) Allergic Reaction	0	0	0	2%	0	0
(d) Other (cramps, abdominal distress, etc.)	0	0	1%	0	0	0
Total Cases—682						

*Where coughs were due to a "dry spot" or other local irritations in the throat, in many cases relief was almost immediate. This is not apparent from the figures shown since these are mathematical averages of all patients on a particular product.

more surface area is thus made accessible to the demulcent and emollient base, accounting for greater local relief to throat tissues where irritation or inflammation may be present.

In view of its clinically determined superiority, fluoroscopic studies were conducted on 25 random cases using Cough Syrup A—barium mixtures. This investigation disclosed no interference with gastric activity or normal stomach emptying time. This is significant because of the tendency of many syrupy expectorant mixtures to cause nausea, particularly in children.

In summary then, once the origin of a cough has been discovered, all efforts to make it productive if non-productive, useful if useless, safe if harmful, must be made. In some cases this will best be accomplished by suppressive medication such as codeine or allied compounds; in other cases, secretory medications such as the Cetylpyridinium Chloride mixture tested clinically in this study will be indicated. While there is some indication that the present trend in the use of narcotic expectorant mixtures is downward and they are not being employed as much as formerly, cough Syrup A containing Cetylpyridinium Chloride could serve as a suitable expectorant vehicle for the addition of codeine or other narcotics where such medication is indicated, since it is both well tolerated and palatable.

CONCLUSIONS

1. For the effective treatment of a cough it is necessary to determine its cause, its origin, and its type. Appropriate treatment can then be prescribed for it.

2. In a clinical study of 682 ambulatory

patients suffering from all types of coughs due to colds, expectorant and suppressive cough preparations were used and clinical criteria established for their evaluation.

3. Cough Syrup A (Vicks) was considered the best of the preparations tested in terms of all around desirability from both objective and subjective points of view. The principal difference between this and other cough syrups is a combination of Cetylpyridinium Chloride with established expectorant drugs of proven value.

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Woman's Auxiliary: M. S. of D.

The Woman's Auxiliary to the Medical Society of Delaware has all arrangements made for a booth at the Harrington Fair, from July 27th through August 1st.

The purpose of the booth is educational—to acquaint the public with the need for nurses in the hospitals in Delaware, and to present to young women the advantages of a career in nursing.

The Delaware State Board of Health is most graciously lending the Auxiliary one of their booths for this exhibit, for which the Auxiliary is very appreciative.

The six hospital nurses training schools of the state will each take one day to present

Concluded on Page 171

+ Editorials +

DELAWARE STATE MEDICAL JOURNAL

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JULY, 1953

No. 7

IS THE UNIONIZATION OF NURSES IN THE OFFING?

The editor of the Journal of the *Tennessee State Medical Association* writes a thought-provoking Editorial, under the above heading in his June issue. The thought is one that has been in our own mind for some time, due to various news releases, some of which emanated from the nurses own organizations. In 1948 the Delaware State Nurses Organization officially repudiated the idea of becoming Unionist and reaffirmed their intentions of remaining strictly professionals. We hope they will remain steadfastly devoted to these ideals. But will they—can they—hold on

when their own American Nurses' Association is leading in the opposite direction?

The disturbing story in the Tennessee Editorial follows:

In March of this year Miss Shirley Titus,* Chairman of the Committee on Employment Conditions of Registered Professional Nurses of the American Nurses' Association, appeared before the Committee on Education and Labor, of the House of Representatives in Washington. As a representative of 177,000 registered nurses in the Country, Miss Titus plead for the elimination of the exemption of non-profit hospitals from collective bargaining under the Labor Management Relations Act of 1947.

The burden of Miss Titus' complaint before the Committee was somewhat as follows. The average salary for general duty nurses throughout the Country, ranging from \$215 to \$220 per month for a 44 hour week, has not kept pace with the rising costs of living as have the wages of other skilled workers. She pointed out that at the annual convention of the American Nurses Association in 1946, its House of Delegates went on record as in favor of State Nurses' Associations developing what they call "economic security programs." This program Miss Titus frankly says, established the State Association as the agency for collective bargaining with the hospitals of the respective state. She complains that the nurses were just getting underway with this program, and with some success, when the Labor-Management Relations Act of 1947 exempted non-profit hospitals from the obligation to bargain collectively with their employees. (The representative of the nursing profession pointed out that 80 per cent of the nation's 335,000 practicing nurses are employed in the 3,227 non-profit hospitals of the Country.) In 1950 the "no-strike" policy was adopted as is shown in the following statement: . . . "the American

*From Transcript of Hearings Before the Committee on Education and Labor, House of Representatives, Washington, D. C., Vol. 13, March 5, 1953.

Nurses' Association, in conducting its Economic Security Program reaffirms professional nurses' voluntary relinquishment of the exercise of the right to strike and of the use of any other measure wherever they may be inconsistent with the professional nurses' responsibilities to patient; . . ."

In her request that non-profit hospitals be forced into collective bargaining with their employees, Miss Titus pointed out that the poor economic status of the nursing profession was one of the major reasons why fewer and fewer women were enrolling in schools of nursing. She said, "The registered nurses of this country today are keenly anxious to have a voice in the determination of their employment conditions, not only because of self-interest and not only to stop exploitation of registered nurses by the hospitals, but more than that the nursing profession is concerned about the increasing shortage of nurses."

From the questions which members of the Committee of the House posed to Miss Titus, it is quite obvious that they were taken aback by Miss Titus' demands. I am quite sure any physician would feel similarly. We have always thought of the nurses as offering us professional assistance with some degree of idealism mixed with the practical aspects of making a living. Miss Titus said, "I would just like to say this, that I can predict that unless there is some assistance given to professional nurses in this matter of collective bargaining, if this exemption of non-profit hospitals continues, I think we will have to accept the fact that the nurses will be compelled to strike. That is what is bothering us. Other employees are able to threaten strikes and use it very skillfully, and sometimes do it." . . . "It is to avoid strikes that we are asking for this exemption to be eliminated. As it is now, the nurses have no way of improving their economic lot, and their economic lot is not good. Even though we recognize the cost of hospital care is very high today and the public is feeling the strain of it, the nurses cannot understand why they must continue to make a very liberal contribution, financially, to the hospital by taking low salaries in order to keep hospitals moving. We feel that the nurses should have

higher salaries and improved employment conditions, . . ."

If this statement truly reflects the feeling of the nursing profession, then your editor feels it has lost the right to speak of itself as a profession. It then clearly represents a trend toward a nurses' union.

Your editor does not expect every nurse to be a Florence Nightingale in ideals, nor does he expect nurses in 1953 to labor for the love of it without thought of remuneration and what it can buy in terms of living. But he does hope that the nurse will stay a cut above labor insofar as a free market for her skills is concerned and not go in for a closed shop, which will be the eventual outcome if the philosophy expressed by Miss Titus is pressed to its logical conclusion. The free labor market permits the nurse to work where she can do the best in terms of money, working conditions and other emoluments. The psychologic reaction and viewpoint which goes hand in hand with the closed shop would be dreadful when applied to the sick. The thought of the perversion of human interest, the desire to serve and to excel by the psychology of "feather-bedding" and related practices of labor, when applied to nursing, is appalling. We can readily visualize under collective bargaining a limit to the number of hypodermic injections, other medications and duties given or done per work period. This is not ridiculous and is certain to follow as the labor-leaders of the nurses' union "feel their oats" and wish to earn for themselves a good salary and a home in the country.

We are surely living in changing times and apparently just about anything can happen.

OUR REGRETS

The front cover of our May, 1953 issue should have carried the caption "St. Francis Hospital Number." This was inadvertently omitted in the final makeup of that issue.

In our June, 1953 issue the discussion by Dr. Michael L. Centrella, of Wilmington, of the paper by Dr. Anthony Sindoni, Jr., was omitted, due to a misunderstanding on the part of the stereotypist who recorded our transactions. Dr. Centrella's discussion will appear in the author's reprint.

While this editor was not responsible for either of these items, he is embarrassed by their happening and sincerely hopes they will never occur again. Our regrets.

MISCELLANEOUS

Delaware Doctors Honored

At the commencement exercises of the University of Delaware on June 14, 1953 four honorary degrees were awarded, one being the degree of Doctor of Public Service to Dr. Victor Duke Washburn. He was presented to President Perkins by Dean Squire, who read the following citation:

Dr. Washburn, a New Yorker by birth and a Delawarean by choice, has been a stalwart and energetic leader in medicine, education and public administration throughout his long career in Delaware. He has served the city of Wilmington as President of the Board of Education, President of the Department of Public Safety, President of the Board of Health, and Health Commissioner. In addition to his municipal duties he has been State Director of the Selective Service System and an active member of the Delaware National Guard from which he was retired in 1946 with the rank of brigadier general. His eminence in the medical profession is attested by the offices which he now holds as President of the Medical Society of Delaware and Medical Director of the Memorial Hospital.

Dr. Washburn received in 1951 the Medal of the American Cancer Society "in recognition of his important contributions in the control of cancer."

A courageous and resourceful public servant, he has served his city and state well.

A citation for leadership in aid to alcoholics was presented to Dr. George H. Gehrmann, medical director of the DuPont Company, by the Malvern (Pa.) Institute for Alcoholism and Psychiatric Studies.

This first award by the institute is in recognition of "the exemplary leadership and courage he has displayed in furthering the treatment, understanding, and welfare of the alcoholic patient and for many years of outstanding service in this cause."

Dr. Gehrmann has played a pioneering role in work with alcoholics in industry since becoming head of the company's medical division in 1926. His support of Alcoholics

Anonymous has aided the growth of such groups throughout the country.

Dr. C. Nelson Davis, founder and director of the Malvern Institute, emphasized in his announcement of the award that Dr. Gehrmann had pioneered in industrial medicine as well as in combating alcoholism. The director also pointed out the "dramatic role" played by the DuPont official who "was risking his professional career in advocating" such programs in earlier days.

At the A. M. A. Convention in New York City on June 1, 1953, the Editor of THE JOURNAL was given a Citation of Appreciation for 25 or more years of service to medical organizations and the medical profession, at the annual meeting of the Medical Society Executive's Conference. This MSEC award was given to Dr. Bird because the issue of December, 1952 completed the 37th year of his editorship here in Delaware. For the past two years Dr. Bird has been the senior editor in the group of State Medical Journal Editors in this country. The award to Dr. Bird was one of six made at the MSEC meeting.

Woman's Auxiliary: M. S. of D.

Continued from Page 168

an exhibit, and will have a representative in the booth to work with the Auxiliary members. The following is their schedule:

Monday—Delaware Hospital

Tuesday—Beebe Hospital

Wednesday—Memorial Hospital

Thursday—Milford Memorial Hospital

Friday—St. Francis Hospital

Saturday—Wilmington General Hospital

There will be movies on nursing, dolls dressed as student nurses, and the exhibit planned by each hospital for their respective days. Literature from each hospital will be available at all times to anyone interested in it.

Mrs. Sylvester Rennie, Wilmington, Chairman, Mrs. Robert Dickey, Laurel, Mrs. Harold Laggner, Smyrna, Mrs. Roger Murray, Wilmington, and Mrs. Douglas Gay, Hockessin make up the Fair committee.

D. A. M.

The library of the Delaware Academy of Medicine will be closed from July 16, 1953 to July 31, 1953.

* * *

The Library of the Delaware Academy of Medicine will appreciate an early return of the following books:

Davidson, Smithers & Tubbs: The Diagnosis and Treatment of Intrathoracic New Growth.

Duke-Elder: Textbook of Ophthalmology, vol. I.

Grant & Estes: Spatial Vector Electrocardiography.

Sunderman & Berner: Normal Value in Clinical Medicine.

Journal of the American Medical Association: vol. 86 (Jan.-June 1926)—bound, green cloth; vol. 141 (Sept.-Dec. 1949)—bound, green cloth.

Circulation: vol. 5 No. 1 (January 1952).

BOOK REVIEWS

THE CONCEPTION OF DISEASE: ITS HISTORY, ITS VERSIONS AND ITS NATURE. By Walter Riese, M. D. Pp. 120, Cloth, Price, \$3.75. New York: Philosophical Library, 1953.

The author traces the various concepts of disease typified by each stage of civilization. Medical thought from the most primitive and crudest magic to the most refined and elaborate concept of modern psychology is analyzed.

It is a significant feature of primitive or magic medicine that supernatural diagnosis, prognosis, and therapy, whether they rest on gods, spirits or demons, do not include the individual himself as the source of medical thought and action.

Today the medical investigation is on the broadest scale, listing origin, age, marital state and profession of the patient. Also included is the psycho-physical development, school record, home life, work record, special interests, social activities, and views on human life and nature.

Medical historians and philosophically-minded physicians will find this little book thought-provoking concerning "disease" and the evolution of the methods developed by the physician in diagnosing the disturbed mechanics and dynamics of life processes. The material is well presented.

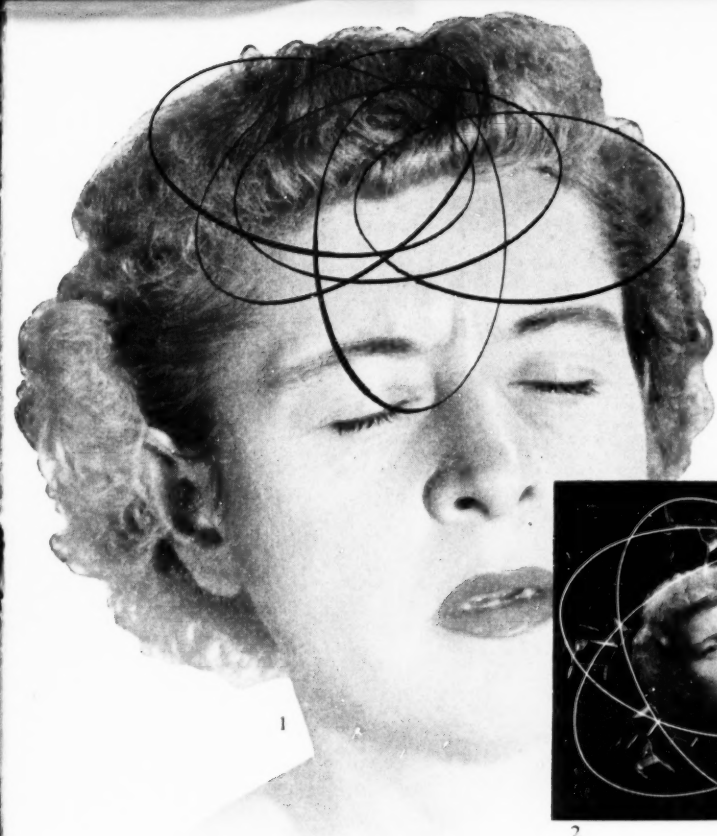
A subject index and a number of references with comments by the author are given in the back of the book.

OPERATING ROOM TECHNIC. By St. Mary's Hospital, Rochester, Minnesota. Fourth Edition. Illustrated. Pp. 345, Cloth. Price, \$6.50. Philadelphia: W. B. Saunders Company, 1952.

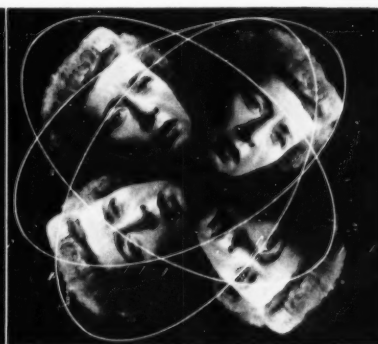
This is a very useful outline of operating room technique as it is carried out at St. Mary's Hospital. It is well outlined and well illustrated for teaching nurses and assistants in the operating room.

NEW MEMBERS—SINCE MAY 31, 1952

Name	Address	Specialty	Tel.	School	Licen.	Joined
Brooks, Clifton R.	Newark, Del.	Pd*	2594	Wisc., 1946	1952	10/52
Davis, Walter D.	828 West St.	P	4-0883	Chicago, 1943	1952	12/52
Dorph, Marvin H.	Med. Arts Bldg.	I	4-7559	Temple, 1948	1949	5/53
Gallaher, Phyllis D.	1009 Park Place	ObG	4-3162	Woman's, 1928	1952	10/52
Gallaher, William T.	1103 Delaware Ave.	ObG	6-6684	Penn., 1942	1952	12/52
Gledhill, Emerson Y.	Memorial Hospital	S*(Ca)	6-3351	Columbia, 1937	1952	9/52
Hainlen, E. Willis	B'wine Sanat.	T*	3-8893	McGill, 1924	1952	2/53
Hogshead, Thomas H.	Newark, Del.	In*	Nk. 7111	Howard, 1937	1953	2/53
Kaminsky, Aaron A.	Nemours Bldg.	In*(P)	4-5121	Md., 1935	1953	4/53
Karpinski, Charles M.	1501B N. Broom St.	S	4-8816	Yale, 1947	1951	12/52
Koether, Paul C.	New Castle, Del.		93-7183	New York, 1950	1952	12/52
Lang, Leonard P.	1009 Park Place	I	2-2286	Jeff., 1939	1952	10/52
Moore, Walter W.	Med. Arts Bldg.	S	4-3570	Jeff., 1947	1948	12/52
Olmedo, Livio	606 W. 10th St.	NS*	4-8835	Mich., 1949	1952	12/52
Panariello, Dominic A.	1404 W. 8 St.		4-1606	Marquette, 1949	1950	2/53
Rosenblum, Herman	1015 Park Place	Pd.	6-6454	Tenn., 1944	1953	3/53
Wagner, Charles W.	New Castle, Del.		93-4875	Va., 1950	1951	1/53
Walker, Charles, Jr.	1300 N. Franklin St.	I	2-8889	Hahn., 1945	1946	10/52



1. *Dizziness . . . movement is within the head.*
2. *Objective vertigo . . . the environment is in motion.*
3. *Subjective vertigo . . . the patient himself moves in space.*



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vertigo from sudden diplopia, visual field defects, looking down from heights and motion sickness due to hyperactive labyrinthine reaction from riding in vehicles.

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1. Simonton, K. M.: The Symptom of Dizziness, Arizona Med. 6:28 (Sept.) 1949.

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1. Reich, W.J. et al. (1951), A Recent Advance in Estrogenic Therapy. I. Amer. J. Obst. & Gynec., 62:427, August. 2. Perloff, W.H. (1951), Treatment of the Menopause. II. Amer. J. Obst. & Gynec., 61:670, March. 3. Reich, W.J. et al. (1952), A Recent Advance in Estrogenic Therapy. II. Amer. J. Obst. & Gynec., 64:174, July.

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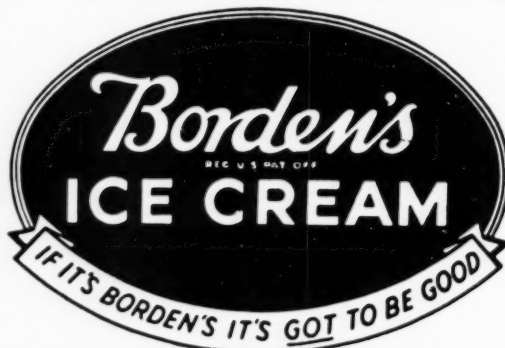
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1. Frost, L. H., and Jackson, R. L.:
J. Pediat. 39: 585-592, 1951.



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